

WHAT IS CLAIMED IS:

1. An information processing apparatus for dividing a print job to make a plurality of printers execute a print process, comprising:

5 spooling means for spooling data in specific file formats in accordance with a combination of a plurality of printers for outputting the divided print jobs; and
 output control means for generating divided print data from the data spooled by said spooling means, and
10 outputting the divided print data to the printers in order to print the divided print jobs at the printers.

2. An information processing apparatus according to claim 1, further comprising registering means for
15 registering a plurality of output destination printers.

3. An information processing apparatus according to claim 2, wherein the print data is generated by a printer driver of each of the plurality of registered
20 printers.

4. An information processing apparatus according to claim 1, further comprising judging means for judging a combination of the plurality of printers and
25 judging whether device dependent data or device independent data is spooled.

5. An information processing apparatus according to claim 4, wherein said judging means judges whether all of the plurality of printers are printers using a printer language capable of dividing the print job in a page unit.

6. An information processing apparatus according to claim 4, wherein said judging means judges whether all of the plurality of printers are printers of a same type.

7. An information processing apparatus according to claim 4, wherein said judging means judges whether all of the plurality of printers have a same printer driver.

8. An information processing apparatus according to claim 4, wherein the device dependent data is RAW data and device independent data is EMF data.

9. An information processing apparatus according to claim 1, further comprising:

judging means for judging whether a page number of a page to be printed can be designated in the print job to be output from each printer; and

transfer control means for copying the print job as many as the number of printers for outputting the

divided print jobs, adding a page number of a page to be printed to each of the copied print jobs, and transferring the copied print jobs to the printers, if said judging means judges that the page number can be designated, and if said judging means judges that the page number cannot be designated, dividing the print jobs for each page to be printed at the printers for distributed printing and transferring the divided print jobs to the printers.

10. An information processing apparatus according to claim 9, wherein said judging means judges from page designation print performance information of each printer whether the page number of a page to be printed can be designated in the print job to be output from each printer.

11. An information processing apparatus according to claim 2, further comprising:

re-arranging means for re-arranging a combination of a plurality of printers for outputting the divided print jobs, among the plurality of printers registered by said registering means, if a printer for outputting the divided print job cannot execute a print process;

and

report forming means for forming a distributed printing result report in accordance with a distributed

printing result obtained by the printers re-arranged by said re-arranging means,

wherein after the distributed printing by the re-arranged printers, the distributed printing result
5 report formed by said report forming means is output to one of the re-arranged printers.

12. An information processing apparatus according to claim 2, further comprising distributed data
10 generating means for dividing the print job and making a printer driver corresponding to each printer generate print data to print the print data at the printers registered by said registering means, wherein said distributed data generating means controls each printer
15 driver to generate the print data added with an off-line command.

13. An information processing apparatus according to claim 12, wherein the printer driver corresponding
20 to each of the printers registered by said registering means generates the print data.

14. An information processing apparatus according to claim 11, wherein if all the printers cannot execute
25 the print process, this effect is output to a printer which outputs the distributed printing result when an error occurs.

15. An information processing apparatus according to claim 11, wherein said output control means generates the print data by acquiring data of an intermediate data format spooled by said spooling means.

16. An information processing apparatus according to claim 12, wherein said registering means registers a printer to which the distributed printing result report is output.

17. An information processing apparatus according to claim 11, wherein the print data is generated by adding an off-line command to the print data for the distributed printing.

18. An information processing apparatus according to claim 11, further comprising:

judging means for judging whether each of the printers registered by said registering means outputs the print job normally,

wherein the distributed printing result report formed by said report forming means is output to a printer to which the report is output, if said judging means judges that the print job for each printer cannot output normally.

19. An information processing apparatus according to claim 11, further comprising:

detecting means for detecting a print job process error by monitoring a process state of the print job distributed to the printers by said output control means,

wherein said re-arranging means re-arranges a combination of a plurality of printers capable of normally outputting the print job distributed to the printers by said output control means, in accordance with a detection result of the print job process error by said detecting means.

20. An information processing method for dividing a print job to make a plurality of printers execute a print process, comprising:

a spooling step of spooling data in specific file formats in accordance with a combination of a plurality of printers for outputting the divided print jobs; and
an output control step of generating divided print data from the data spooled by said spooling step, and outputting the divided print data to the printers in order to print the divided print jobs at the printers.

21. An information processing method according to claim 20, further comprising a registering step of for registering a plurality of output destination printers.

22. An information processing method according to claim 21, wherein the print data is generated by a printer driver of each of the plurality of registered printers.

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23. An information processing method according to claim 20, further comprising a judging step of judging a combination of the plurality of printers and judging whether device dependent data or device independent data is spooled.

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24. An information processing method according to claim 23, wherein said judging step judges whether all of the plurality of printers are printers using a printer language capable of dividing the print job in a page unit.

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25. An information processing method according to claim 23, wherein said judging step judges whether all of the plurality of printers are printers of a same type.

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26. An information processing method according to claim 23, wherein said judging step judges whether all of the plurality of printers have a same printer driver.

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27. An information processing method according to claim 23, wherein the device dependent data is RAW data and device independent data is EMF data.

5 28. An information processing method according to claim 20, further comprising:

a judging step of judging whether a page number of a page to be printed can be designated in the print job to be output from each printer; and

10 a transfer control step of copying the print job as many as the number of printers for outputting the divided print jobs, adding a page number of a page to be printed to each of the copied print jobs, and transferring the copied print jobs to the printers, if
15 said judging step judges that the page number can be designated, and if said judging step judges that the page number cannot be designated, dividing the print jobs for each page to be printed at the printers for distributed printing and transferring the divided print
20 jobs to the printers.

29. An information processing method according to claim 28, wherein said judging step judges from page designation print performance information of each
25 printer whether the page number of a page to be printed can be designated in the print job to be output from each printer.

30. An information processing method according to claim 21, further comprising:

5 a re-arranging step of re-arranging a combination of a plurality of printers for outputting the divided print jobs, among the plurality of printers registered by said registering step, if a printer for outputting the divided print job cannot execute a print process; and

10 a report forming step of forming a distributed printing result report in accordance with a distributed printing result obtained by the printers re-arranged by said re-arranging step,

15 wherein after the distributed printing by the re-arranged printers, the distributed printing result report formed by said report forming step is output to one of the re-arranged printers.

31. An information processing method according to claim 21, further comprising a distributed data
20 generating step of dividing the print job and making a printer driver corresponding to each printer generate print data to print the print data at the printers registered by said registering step, wherein said distributed data generating step controls each printer
25 driver to generate the print data added with an off-line command.

32. An information processing method according to claim 31, wherein the printer driver corresponding to each of the printers registered by said registering step generates the print data.

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33. An information processing method according to claim 30, wherein if all the printers cannot execute the print process, this effect is output to a printer which outputs the distributed printing result when an error occurs.

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34. An information processing method according to claim 30, wherein said output control step generates the print data by acquiring data of an intermediate data format spooled by said spooling step.

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35. An information processing method according to claim 31, wherein said registering step registers a printer to which the distributed printing result report is output.

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36. An information processing method according to claim 30, wherein the print data is generated by adding an off-line command to the print data for the distributed printing.

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37. An information processing method according to

claim 30, further comprising:

a judging step of judging whether each of the printers registered by said registering step outputs the print job normally,

5 wherein the distributed printing result report formed by said report forming step is output to a printer to which the report is output, if said judging step judges that the print job for each printer cannot output normally.

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38. An information processing method according to claim 30, further comprising:

a detecting step of detecting a print job process error by monitoring a process state of the print job distributed to the printers by said output control step,

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wherein said re-arranging step re-arranges a combination of a plurality of printers capable of normally outputting the print job distributed to the printers by said output control step, in accordance with a detection result of the print job process error by said detecting step.

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39. A computer-readable memory medium which stores a computer program for a method of dividing a print job to make a plurality of printers execute a print process, said program comprising:

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a spooling step of spooling data in specific file formats in accordance with a combination of a plurality of printers for outputting the divided print jobs; and

an output control step of generating divided print
5 data from the data spooled by said spooling step, and outputting the divided print data to the printers in order to print the divided print jobs at the printers.

40. A computer-readable memory medium according
10 to claim 39, wherein said program further comprises a registering step of for registering a plurality of output destination printers.

41. A computer-readable memory medium according
15 to claim 40, wherein the print data is generated by a printer driver of each of the plurality of registered printers.

42. A computer-readable memory medium according
20 to claim 39, wherein said program further comprises a judging step of judging a combination of the plurality of printers and judging whether device dependent data or device independent data is spooled.

25 43. A computer-readable memory medium according to claim 42, wherein said judging step judges whether all of the plurality of printers are printers using a

printer language capable of dividing the print job in a page unit.

44. A computer-readable memory medium according
5 to claim 42, wherein said judging step judges whether all of the plurality of printers are printers of a same type.

45. A computer-readable memory medium according
10 to claim 42, wherein said judging step judges whether all of the plurality of printers have a same printer driver.

46. A computer-readable memory medium according
15 to claim 42, wherein the device dependent data is RAW data and device independent data is EMF data.

47. A computer-readable memory medium according
to claim 39, wherein said program further comprises:
20 a judging step of judging whether a page number of a page to be printed can be designated in the print job to be output from each printer; and

a transfer control step of copying the print job as many as the number of printers for outputting the
25 divided print jobs, adding a page number of a page to be printed to each of the copied print jobs, and transferring the copied print jobs to the printers, if

said judging step judges that the page number can be designated, and if said judging step judges that the page number cannot be designated, dividing the print jobs for each page to be printed at the printers for distributed printing and transferring the divided print jobs to the printers.

48. A computer-readable memory medium according to claim 47, wherein said judging step judges from page designation print performance information of each printer whether the page number of a page to be printed can be designated in the print job to be output from each printer.

49. A computer-readable memory medium according to claim 40, wherein said program further comprises:
a re-arranging step of re-arranging a combination of a plurality of printers for outputting the divided print jobs, among the plurality of printers registered by said registering step, if a printer for outputting the divided print job cannot execute a print process;
and

a report forming step of forming a distributed printing result report in accordance with a distributed printing result obtained by the printers re-arranged by said re-arranging step,

wherein after the distributed printing by the

re-arranged printers, the distributed printing result report formed by said report forming step is output to one of the re-arranged printers.

5 50. A computer-readable memory medium according to claim 40, wherein said program further comprises a distributed data generating step of dividing the print job and making a printer driver corresponding to each printer generate print data to print the print data at
10 the printers registered by said registering step, wherein said distributed data generating step controls each printer driver to generate the print data added with an off-line command.

15 51. A computer-readable memory medium according to claim 50, wherein the printer driver corresponding to each of the printers registered by said registering step generates the print data.

20 52. A computer-readable memory medium according to claim 49, wherein if all the printers cannot execute the print process, this effect is output to a printer which outputs the distributed printing result when an error occurs.

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 53. A computer-readable memory medium according to claim 49, wherein said output control step generates

the print data by acquiring data of an intermediate data format spooled by said spooling step.

54. A computer-readable memory medium according to claim 50, wherein said registering step registers a printer to which the distributed printing result report is output.

55. A computer-readable memory medium according to claim 49, wherein the print data is generated by adding an off-line command to the print data for the distributed printing.

56. A computer-readable memory medium according to claim 49, wherein said program further comprises:

a judging step of judging whether each of the printers registered by said registering step outputs the print job normally,

wherein the distributed printing result report formed by said report forming step is output to a printer to which the report is output, if said judging step judges that the print job for each printer cannot output normally.

57. A computer-readable memory medium according to claim 49, wherein said program further comprises:
a detecting step of detecting a print job process

error by monitoring a process state of the print job distributed to the printers by said output control step,

5 wherein said re-arranging step re-arranges a combination of a plurality of printers capable of normally outputting the print job distributed to the printers by said output control step, in accordance with a detection result of the print job process error by said detecting step.

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58. A computer program for a method of dividing a print job to make a plurality of printers execute a print process, said program comprising:

15 a spooling step of spooling data in specific file formats in accordance with a combination of a plurality of printers for outputting the divided print jobs; and

an output control step of generating divided print data from the data spooled by said spooling step, and outputting the divided print data to the printers in
20 order to print the divided print jobs at the printers.

59. A computer program according to claim 58, wherein said program further comprises a registering step of for registering a plurality of output
25 destination printers.

60. A computer program according to claim 59,

wherein the print data is generated by a printer driver of each of the plurality of registered printers.

61. A computer program according to claim 58,
5 wherein said program further comprises a judging step of judging a combination of the plurality of printers and judging whether device dependent data or device independent data is spooled.

10 62. A computer program according to claim 61, wherein said judging step judges whether all of the plurality of printers are printers using a printer language capable of dividing the print job in a page unit.

15 63. A computer program according to claim 61, wherein said judging step judges whether all of the plurality of printers are printers of a same type.

20 64. A computer program according to claim 61, wherein said judging step judges whether all of the plurality of printers have a same printer driver.

25 65. A computer program according to claim 61, wherein the device dependent data is RAW data and device independent data is EMF data.

66. A computer program according to claim 58,
wherein said program further comprises:

5 a judging step of judging whether a page number of
a page to be printed can be designated in the print job
to be output from each printer; and

10 a transfer control step of copying the print job
as many as the number of printers for outputting the
divided print jobs, adding a page number of a page to
be printed to each of the copied print jobs, and
transferring the copied print jobs to the printers, if
said judging step judges that the page number can be
designated, and if said judging step judges that the
page number cannot be designated, dividing the print
15 jobs for each page to be printed at the printers for
distributed printing and transferring the divided print
jobs to the printers.

20 67. A computer program according to claim 66,
wherein said judging step judges from page designation
print performance information of each printer whether
the page number of a page to be printed can be
designated in the print job to be output from each
printer.

25 68. A computer program according to claim 59,
wherein said program further comprises:

a re-arranging step of re-arranging a combination

of a plurality of printers for outputting the divided
print jobs, among the plurality of printers registered
by said registering step, if a printer for outputting
the divided print job cannot execute a print process;

5 and

a report forming step of forming a distributed
printing result report in accordance with a distributed
printing result obtained by the printers re-arranged by
said re-arranging step,

10 wherein after the distributed printing by the re-
arranged printers, the distributed printing result
report formed by said report forming step is output to
one of the re-arranged printers.

15 69. A computer program according to claim 59,
wherein said program further comprises a distributed
data generating step of dividing the print job and
making a printer driver corresponding to each printer
generate print data to print the print data at the
20 printers registered by said registering step, wherein
said distributed data generating step controls each
printer driver to generate the print data added with an
off-line command.

25 70. A computer program according to claim 69,
wherein the printer driver corresponding to each of the
printers registered by said registering step generates

the print data.

71. A computer program according to claim 68,
wherein if all the printers cannot execute the print
5 process, this effect is output to a printer which
outputs the distributed printing result when an error
occurs.

72. A computer program according to claim 68,
10 wherein said output control step generates the print
data by acquiring data of an intermediate data format
spooled by said spooling step.

73. A computer program according to claim 69,
15 wherein said registering step registers a printer to
which the distributed printing result report is output.

74. A computer program according to claim 68,
wherein the print data is generated by adding an off-
20 line command to the print data for the distributed
printing.

75. A computer program according to claim 68,
wherein said program further comprises:
25 a judging step of judging whether each of the
printers registered by said registering step outputs
the print job normally,

wherein the distributed printing result report
formed by said report forming step is output to a
printer to which the report is output, if said judging
step judges that the print job for each printer cannot
5 output normally.

76. A computer program according to claim 68,
wherein said program further comprises:

10 a detecting step of detecting a print job process
error by monitoring a process state of the print job
distributed to the printers by said output control
step,

15 wherein said re-arranging step re-arranges a
combination of a plurality of printers capable of
normally outputting the print job distributed to the
printers by said output control step, in accordance
with a detection result of the print job process error
by said detecting step.